

Title (en)

Control device for servo die cushion

Title (de)

Steuervorrichtung für Servoziehkissen

Title (fr)

Système de commande pour servo-amortisseur de matrice

Publication

EP 1736840 A1 20061227 (EN)

Application

EP 06012043 A 20060612

Priority

JP 2005184933 A 20050624

Abstract (en)

A control device of a die cushion mechanism, by which a force between a slide and a die cushion may follow a commanded value even in the rapid acceleration or deceleration of the slide and, moreover, a problem such as vibration of the mechanism may be prevented in the gradual acceleration or deceleration of the slide. The control device includes a slide position detecting part, such as a position sensor, for detecting the position of the slide and a correcting part for correcting a current commanded value using an acceleration of the slide, obtained by second-order differentiation of the position of the slide detected by the position sensor.

IPC 8 full level

G05B 19/19 (2006.01)

CPC (source: EP US)

G05B 19/404 (2013.01 - EP US); **G05B 2219/37323** (2013.01 - EP US); **G05B 2219/49135** (2013.01 - EP US);
G05B 2219/49176 (2013.01 - EP US)

Citation (applicant)

- EP 0556390 A1 19930825 - KOMATSU MFG CO LTD [JP]
- EP 1378806 A1 20040107 - FANUC LTD [JP]

Citation (search report)

- [A] EP 0556390 A1 19930825 - KOMATSU MFG CO LTD [JP]
- [A] US 5477723 A 19951226 - KERGEN RICHARD [BE]
- [A] US 5435166 A 19950725 - SUNADA MASAHIDE [JP]
- [A] EP 1378806 A1 20040107 - FANUC LTD [JP]
- [A] US 5056038 A 19911008 - KUNO TOSHITAKA [JP], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 01 31 January 1996 (1996-01-31)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13 30 November 1998 (1998-11-30)

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EP2789408A1; US9501052B2

Designated contracting state (EPC)

DE

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

EP 1736840 A1 20061227; **EP 1736840 B1 20100526**; CN 100409963 C 20080813; CN 1883842 A 20061227; DE 602006014471 D1 20100708; JP 2007000905 A 20070111; JP 4102389 B2 20080618; US 2006288755 A1 20061228; US 7421878 B2 20080909

DOCDB simple family (application)

EP 06012043 A 20060612; CN 200610093148 A 20060622; DE 602006014471 T 20060612; JP 2005184933 A 20050624; US 47229606 A 20060622